



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,716	09/30/1999	NANCY E. MILLER	01413.0011-0	4370

7590 03/22/2005

FINNEGAN HENDERSON FARABOW
GARRETT & DUNNER LLP
STANFORD RESEARCH PARK
700 HANSEN WAY
PALO ALTO, CA 94304

EXAMINER

BLACKMAN, ANTHONY J

ART UNIT	PAPER NUMBER
----------	--------------

2676

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/408,716

Applicant(s)

MILLER ET AL.

Examiner

ANTHONY J BLACKMAN

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12-14,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12-14,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 2/28/05.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Examiner and attorney, Konstantin LINNIK meaningfully discussed the merits of the case. Mr. LINNIK sent a proposed amendment that is attached to the Interview summary. Examiner has carefully considered the proposed amendment and after discussing the case with SPE, Matt BELLA, examiner will write an office action with new references, COLEMAN et al, US Patent No. 6,738,502 (anticipating claims 1-10, 12 and 16-17), supported by BARG et al, US Patent No. 6,707,454 (providing supporting evidence for claims 13-14).

Specification

2. The disclosure is objected to because of the following informalities: pages 1, 7, 8 and 11 require serial numbers representing each patent application.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 13 recites the limitation "second visualization" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2676

Claim 16 recites the limitation "second visualization" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "second visualization" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Each claim, 13, 16 and 17, will be evaluated as best understood.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-12 and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by COLEMAN et al, US Patent No. 6,738,502.

As per claim 1, examiner interprets COLEMAN et al to disclose,

"A method of interactively displaying a set of records and their associated attributes (*column 14, lines 31-38-relates to the graphical user interface depicted in figure 6 with file management and spectral analysis relating to the set of records and attributes*) comprising: defining a set of graphic images (*the graphic images are represented as spectral analysis and display (see column 14, lines 31-34)*), wherein each graphic image represents a range of values (*the values are represented as the fluorescence*

Art Unit: 2676

intensity in the spectra is defined by the ColorBar (column 14, line 54-56) and Color Grouping Bar (column 14, lines 60-62),

Art Unit: 2676

generating a first surface map of the set of records with (1) graphic images (*the Contour Plot of figure 6 is a first surface map and column 15, lines 6-17*),

the Contour Plot represents the first surface map comprising first and second dimensions represented as rows and columns (*see the Contour Plot of figure 6, comprising first and second dimensions representing rows as pixels and columns as channels*) and

representing attributes associated with each record in the set, arranged along a first dimension (*see the Contour Plot of figure 6 where rows are pixels or columns are channels comprises a first dimension*), and (2) the records, represented by a collection of graphic images, arranged along a second dimension (*see the Contour Plot of figure 6 where rows are pixels or columns are channels comprises a second dimension*), generating a second visual representation of a plurality of the records in the set (*see figure 6 where both the Plot Window and Image Window represent the second visualization-see column 15, lines 7-24 24 as the second visualization (the plot window) is developed by the Contour Window*);

displaying the first surface map and second visual representations such that they appear on a display simultaneously receiving input from a user selecting a subset of the records from the first surface map (*the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar –see column 14, line 60-column 15, line 6*) and

altering the second visual representation to highlight the selected subset simultaneous to the displaying the first visual representation (*the three windows of figure 6 are*

Art Unit: 2676

interactive with user controlled highlighting maintained via the Color-Grouping Bar – Bar by at least providing a colored tick mark next to this row while simultaneously updating the plot Window and highlighting the associated feature in the Image Window-all using the same marking color - see column 14, line 60-column 15, line 6)."

7. As per claim 2, COLEMAN et al meet limitations of claim 1, including, wherein the graphic images are color-coded blocks (*see figure 6- Fluorescence Intensity ColorBar and explained above in claim 1*).

8. As per claim 3, COLEMAN et al meet limitations of claim 1, wherein the second visual representation is a galaxy view (*figures 1, 4, 11 and 13 are each representative of galaxy views*).

9. As per claim 4, COLEMAN et al meet limitations of claim 1, wherein the records are ordered into groups (*the Contour Plot associates rows into groups – column 15, lines 7-17*).

10. As per claim 5, COLEMAN et al meet limitations of claim 4, wherein the groups are ordered based on statistical correlation (*figure 6-the Fluorescence Intensity ColorBar (horizontal-dimension) and Color-Grouping Bar (vertical-dimension) both described in column 14, line 30-column 15 line 18 relates to the statistical correlation- because the statistics are at least color-based*).

11. As per claim 6, COLEMAN et al meet limitations of claim 1, wherein the order of display of the attributes associated with the records is based on statistical correlation (*figure 6-the Fluorescence Intensity ColorBar (horizontal-dimension) and Color-Grouping Bar (vertical-dimension) both described in column 14, line 30-column 15 line 18 relates to the statistical correlation*).

12. As per claim 7, COLEMAN et al meet limitations of claim 1, wherein the order of display of the attributes associated with the records is based on cluster analysis (*figures 11 and 22 at column 7, lines 7-19 discuss the tree (cluster of figure 11) with the color-coding scheme of figure 22 determining the order of display*).

13. As per claim 8, COLEMAN et al, meet limitations of claim 1, further comprising analyzing an index to determine if one or more of the records in the selected subset is shown in the second visual representation (*the user-controlled highlighting activates simultaneous updating of the interactive windows disclosed in claim 1 – see column 14, line 60 –column 15, line 6) comparing different spectra for each color group*).

14. As per claim 9, COLEMAN et al meet limitations of claim 1, further comprising generating a dendrogram to indicate relationships between records (*the dendrogram is a selectively grouped tree or cluster as shown in figure 11 compared with figure 12 that*

Art Unit: 2676

shows less selective groupings; please see figures 11 and 22 at column 7, lines 7-19 discuss the tree (cluster of figure 11) with the color-coding scheme of figure 22 determining the order of display).

15. As per claim 10, COLEMAN et al meet limitations of claim 1, further comprising: determining a text-based identification of the record represented in the selected portion of the first surface map (*see column 15, lines 25-62, disclosing figure 7 based on the textual data from figure 18 and the texture data relates to the Contour Plot discussing identifying the data by at least the Color-Grouping Bar*); and displaying the text-based identification (*figure 7 displays the text-based identification as pseudocolored imaging – see column 15, lines 25-27*).

16. As per claim 12, examiner interprets COLEMAN et al to disclose,
" A computer-implemented method of interactively displaying records and their corresponding attributes (*column 14, lines 31-38- the graphical user interface depicted in figure 6 with file management and spectral analysis relating to the set of records and attributes-the spectra and channels*), comprising:
providing a surface map representing a set of records and a set of views for simultaneous display (*the Contour Plot of figure 6 is a surface map and column 15, lines 6-17*), linking the surface map to the set of views (*the set of views comprises the user selected highlighting means where the interactive windows and mappings between the windows are maintained via the Color-Grouping Bar as the highlighting means*

Art Unit: 2676

simultaneously displays records/views between the Contour Plot, Plot Window and Image window of figure 6 see column 14, line 60-column 15, line 6), wherein at least one of the views comprises a visual representation of a plurality of the records in the set (the set of views comprises the user selected highlighting means where the interactive windows and mappings between the windows are maintained via the Color-Grouping Bar as the highlighting means simultaneously displays records/views between the Contour Plot, Plot Window and Image window of figure 6 see column 14, line 60-column 15, line 6);

receiving an input signal selecting a portion of the surface map (the input signaling means results from the interactive highlighting means (column 14, line 60-column 15, line 6); and

indicating, in a view linked to the surface map, a plurality of the records corresponding to the selected portion simultaneous with the displaying the set of views (the indication is representative of the intuitive spectral analysis and display disclosed at column 14, lines 31-40 and further illustrated by the user-controlled highlighting interactive window means – see column 14, line 60-column 15, line 6) .”

17. As per claim 16, examiner interprets COLEMAN et al to teach

An apparatus for interactively displaying a set of records and their associated attributes (column 14, lines 31-38-relates to the graphical user interface depicted in figure 6 with file management and spectral analysis relating to the set of records and attributes), comprising:

Art Unit: 2676

at least one memory having program instructions (*column 5, lines 38-43 – the use of memory as claimed is inherent via software controlling automated functions (program instructions)*); and

at least one processor configured to execute the program instructions to perform the operations of defining a set of graphic images (*column 8, lines 23-41- the processor comprises functions that “automatically images the target, obtains calibrated images, and automatically indicates the fluorescence or other spectrally identifiable signals for each pixel at the selected wavelengths*),

wherein each graphic image represents a range of values (*the values are represented as the fluorescence intensity in the spectra defined by the ColorBar (column 14, line 54-56) and Color Grouping Bar (column 14, lines 60-62)*

generating a first surface map with the records of the set arranged along a first dimension and graphic images representing attributes associated with the records, arranged along a second dimension dimension (*see the Contour Plot of figure 6 where rows are pixels or columns are channels comprises a first dimension or second dimension*),

generating a second visual representation of a plurality of the records in the set (*see figure 6 where both the Plot Window and Image Window represent the second visualization-see column 15, lines 7-24 as the second visualization (the plot window) is developed by the Contour Window*);

displaying simultaneously the first surface map and the second visual representation

Art Unit: 2676

(the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar –see column 14, line 60-column 15, line 6):
receiving input from a user selecting a subset of the records from the first surface map *(the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar –see column 14, line 60-column 15, line 6);*
and analyzing an index to determine if one or more records in the selected subset are shown in another view (column 26, lines 8-17-the database is related to the index as claimed);
and altering the second visual representation based on the input, when one or more records in the selected subset are shown in another view simultaneous with the displaying the first surface map *(the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar by at least providing a colored tick mark next to this row while simultaneously updating the plot Window and highlighting the associated feature in the Image Window-all using the same marking color –see column 14, line 60-column 15, line 6) .*

18. As per claim 17, examiner interprets COLEMAN et al to teach
An apparatus for interactively displaying a set of records and their associated attributes *(column 14, lines 31-38-relates to the graphical user interface depicted in figure 6 with file management and spectral analysis relating to the set of records and attributes),*
comprising:

Art Unit: 2676

means for defining a set of graphic images (*column 8, lines 23-41- the processor comprises functions that "automatically images the target, obtains calibrated images, and automatically indicates the fluorescence or other spectrally identifiable signals for each pixel at the selected wavelengths*),

wherein each graphic image represents a range of values (*the values are represented as the fluorescence intensity in the spectra defined by the ColorBar (column 14, line 54-56) and Color Grouping Bar (column 14, lines 60-62)*);

means for generating a first surface map with the records of the set arranged along a first dimension and graphic images, representing attributes associated with the records, arranged along a second dimension (*see the Contour Plot of figure 6 where rows are pixels or columns are channels comprises a first dimension or second dimension*),

means for generating a second visual representation of a plurality of the records from the set (*see figure 6 where both the Plot Window and Image Window represent the second visualization-see column 15, lines 7-24 24 as the second visualization (the plot window) is developed by the Contour Window*);

means for simultaneously displaying the first surface map and the second visual representation means for receiving input from a user selecting a subset of the records on the surface map (*the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar –see column 14, line 60-column 15, line 6*);

means for analyzing an index to determine if one or more records in the selected subset

Art Unit: 2676

are shown in another view (column 26, lines 8-17-the database is related to the index as claimed); and

means for altering the second visual representation based on the input, when one or more records in the selected subset are shown in the second visual representation.

simultaneous with the displaying the first surface map (*the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar by at least providing a colored tick mark next to this row while simultaneously updating the plot Window and highlighting the associated feature in the Image Window-all using the same marking color –see column 14, line 60-column 15, line 6*).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over COLEMAN et al, US Patent No. 6,738,502 in view of BARG et al, US Patent No. 6,707,454.

21. As per claim 13, examiner interprets COLEMAN et al to meet limitations and features of claim 13 as claimed, "A method of interactively displaying a set of records and their corresponding attributes (*column 14, lines 31-38-relates to the graphical user interface depicted in figure 6 with file management and spectral analysis relating to the*

Art Unit: 2676

set of records and attributes), comprising: defining a set of graphic images, wherein each graphic image represents a range of values *(the values are represented as the fluorescence intensity in the spectra defined by the ColorBar (column 14, line 54-56) and Color Grouping Bar (column 14, lines 60-62)*

generating a two-dimensional surface map with (1) each record in the set arranged along a first dimension *(see the Contour Plot of figure 6 where rows are pixels and columns are channels comprises a first dimension or second dimension, respectively)*, (2) graphic images, representing attributes associated with the records, arranged along a second dimension *(see the Contour Plot of figure 6 where rows are pixels and columns are channels comprises a first dimension or second dimension, respectively)*, generating a second visual representation of a plurality of the records in the set *(see figure 6 where both the Plot Window and Image Window represent the second visualization-see column 15, lines 7-24 24 as the second visualization (the plot window) is developed by the Contour Window)*; displaying simultaneously the surface map and the second visual representation receiving input from a user selecting a subset of the records on the surface map *(the three windows of figure 6 are interactive with user controlled highlighting maintained via the Color-Grouping Bar –see column 14, line 60-column 15, line 6)*;

analyzing an index to determine if the selected subset is shown in the second visual representation *(column 26, lines 8-17-the database is related to the index as claimed)*, and altering the second visual representation based on the input, when the selected subset is shown in the second visual representation simultaneous with the displaying

Art Unit: 2676

the surface map", however, COLEMAN et al does not expressly teach the three dimensional surface map and the values associated with the attributes arranged along a third dimension. BARG et al suggest three dimensional surface map (*column 6, lines 28-35*) and the values associated with the attributes arranged along a third dimension (*the data along the Z dimension used as then value/weight represents the attributes as claimed from column 6, lines 28-35*). It would have been obvious to one skilled in the art at the time of the invention to utilize the user-controlled arbitrary rotational viewing means (*column 8, lines 22-46*) for the three-dimensional multiscape views of BARG et al to modify the "Multispectral Taxonomic Identification (MTID) graphical user interface (GUI) includes multiple window types, wizards, and a number of options pertaining to file management, data acquisition, image processing, spectral analysis and display (*column 14, lines 31-34*), including, simultaneously updating and highlighting, via a Colour-Grouping Bar, user-controlled interactive windows (*Contour Plot, and Plot and Image Windows see column 14, lines 31-67, and particularly lines 57-67*) of COLEMAN et al because both inventions share user controlled multidimensional visualizations and use of BARQ et al's "...dimensional focus navigational technique according to this invention, the user can rearrange the dimensions after visualizing a pivot table or other multidimensional structure, by swapping rows, columns, and pages (*column 16, lines 1-5*)". Therefore, it would have been obvious to modify COLEMAN et al via BARQ et al.

Art Unit: 2676

22. As per claim 14, COLEMAN et al as modified meets limitations of claim 13, however, does not expressly teach wherein the three-dimensional surface map may be rotated in any of the three dimensions. BARG et al suggest wherein the three-dimensional surface map may be rotated in any of the three dimensions (see *column 8, lines 15-47 discussing figure 2 the changing of views/rotating means via "top-down view" and "horizontal view" and then discusses an "arbitrary rotation" to arbitrarily rotate the three-dimensional multiscape view about an arbitrary axis-column 8, lines 35-46*). It would have been obvious to one skilled in the art at the time of the invention to utilize the user-controlled arbitrary rotational viewing means (*column 8, lines 22-46*) for the three-dimensional multiscape views of BARG et al to modify the "Multispectral Taxonomic Identification (MTID) graphical user interface (GUI) includes multiple window types, wizards, and a number of options pertaining to file management, data acquisition, image processing, spectral analysis and display (*column 14, lines 31-34*), including, simultaneously updating and highlighting, via a Colour-Grouping Bar, user-controlled interactive windows (*Contour Plot, and Plot and Image Windows see column 14, lines 31-67, and particularly lines 57-67*) of COLEMAN et al because both inventions share user controlled multidimensional visualizations and use of BARQ et al's "...dimensional focus navigational technique according to this invention, the user can rearrange the dimensions after visualizing a pivot table or other multidimensional structure, by swapping rows, columns, and pages (*column 16, lines 1-5*)". Therefore, it would have been obvious to modify COLEMAN et al via BARQ et al.

Art Unit: 2676

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J BLACKMAN whose telephone number is 703-305-0833. The examiner can normally be reached on FLEX SCHEDULE.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW BELLA can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ANTHONY J BLACKMAN
Examiner
Art Unit 2676



MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600